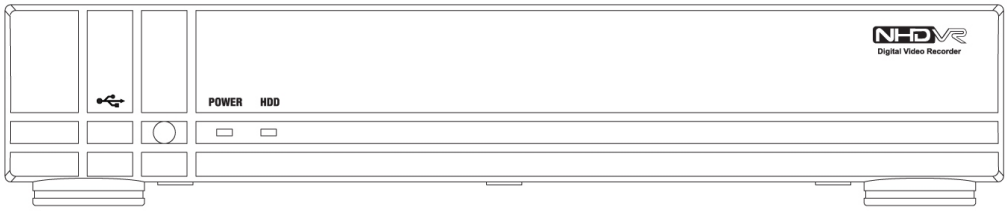
USER GUIDE

4 Channel MPEG-4 Triplex

Digital Video Recorder

(Ver. 2.1)

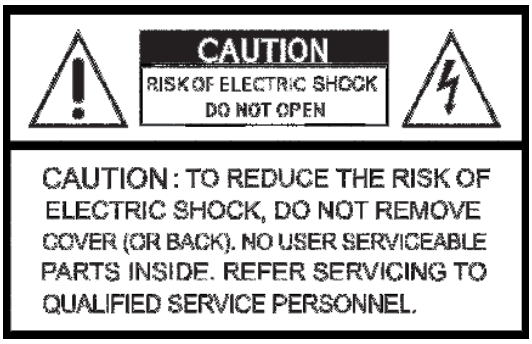


About this user guide

Before installing and using this unit, please read this user guide carefully.

The specifications and information are subject to change without notice for quality improvement.

Safety Precautions


CAUTION
RISK OF ELECTRIC SHOCK
DO NOT OPEN
CAUTION : TO REDUCE THE RISK OF ELECTRIC SHOCK, DO NOT REMOVE COVER (OR BACK). NO USER SERVICEABLE PARTS INSIDE. REFER SERVICING TO QUALIFIED SERVICE PERSONNEL.

Explanation of Graphical Symbols

This symbol indicates the presence of important operating and maintenance (servicing) instruction in the literature accompanying the product.

This symbol indicates the presence of unprotected ”dangerous voltage” within the product’s enclosure that may be of sufficient magnitude to constitute a risk of electric shock to persons.

Cautions

This product has multiple-rated voltages (110v and 220v).

See installation instructions before connecting to the power supply.

This product uses a Lithium battery.

To avoid of risk of explosion, do not replace the battery on the main board by anything other than a Lithium battery. Dispose of used batteries according to the manufacturer’s instructions.

This equipment and all communication wirings are intended for indoor use only.

To reduce the risk of fire or electric shock, do not expose the unit to rain or moisture.

Warnings

Installation and servicing should be performed only by qualified and experienced personnel.

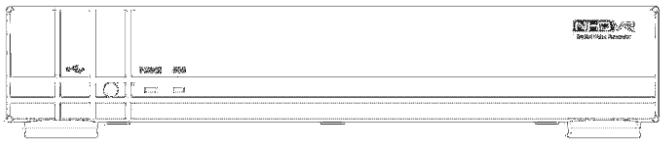
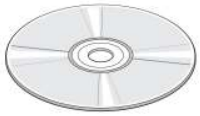
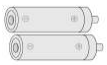
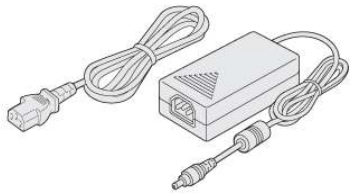
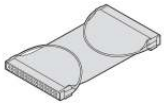
Power off the DVR when connecting cameras, audio or sensor cables.

The manufacturer is not responsible for any damage caused by improper use of the product or failure to follow instructions for the product.

The manufacturer is not responsible for any problems caused by or resulting from the user physically opening the DVR for examination or attempting to fix the unit. The manufacturer may not be held liable for any issues with the unit if the warranty seal is removed.

Contents of DVR package

The package contains the main unit and its components as specified below. When you purchase the unit, please check to ensure the components specified below are included.

DVR Set	
Client Software CD (Including Manual)	
Remote Controller	
Battery1.5V (AAA x 2EA)	
Adaptor and Power cable	
IDE HDD Cable	
HDD Screws and Rubber rings	

Compatible HDD Models

COMPANY	MODEL	SIZE	RPM	BUFFER	INTERFACE
HITACHI	HDS728080PLAT20	80 GB	7200 RPM	2 M	E-IDE
	HDS721680PLAT80	82 GB	7200 RPM	8 M	E-IDE
	HDT722516DLAT80	160 GB	7200 RPM	8 M	E-IDE
	HDT722516DLAT80	164 GB	7200 RPM	8 M	E-IDE
	HDS722525VLAT80	250 GB	7200 RPM	8 M	E-IDE
	HDT722525DLAT80	250 GB	7200 RPM	8 M	E-IDE
	HDT725025VLAT80	250 GB	7200 RPM	8 M	E-IDE
	HDT725032VLAT80	320 GB	7200 RPM	8 M	E-IDE
	HDS725050KLAT80	500 GB	7200 RPM	8 M	E-IDE
MAXTOR	6L300R0	300 GB	7200 RPM	16 M	E-IDE
SAMSUNG	SP0822N	80 GB	7200 RPM	2 M	E-IDE
	SP1604N	160 GB	7200 RPM	2 M	E-IDE
Western Digital	WD1600BB-22GUA0	160 GB	7200 RPM	2 M	E-IDE
	WD2000BB-00GUA0	200 GB	7200 RPM	8 M	E-IDE
	WD2500BB-00KEA0	250 GB	7200 RPM	8 M	E-IDE
Seagate	ST3400-15ACE	40 GB	7200 RPM	2 M	E-IDE
	ST3800-12ACE	80 GB	7200 RPM	2 M	E-IDE
	ST31200-25ACE	120 GB	7200 RPM	2 M	E-IDE
	ST31600-22ACE	160 GB	7200 RPM	2 M	E-IDE
	ST3300820ACE	300 GB	7200 RPM	8 M	E-IDE
	ST3300831ACE	300 GB	7200 RPM	8 M	E-IDE
	ST3400832ACE	400 GB	7200 RPM	8 M	E-IDE
	ST3400820ACE	400 GB	7200 RPM	8 M	E-IDE
	ST3500641A	500 GB	7200 RPM	16 M	E-IDE
	ST3750840ACE	750 GB	7200 RPM	8 M	E-IDE
	ST3750640A	750 GB	7200 RPM	16 M	E-IDE

Specifications

VIDEO	INPUT	4 composite BNC (NTSC/PAL) – 1.0Vp-p	
	OUTPUT (Selectable)	1 composite BNC (NTSC/PAL) – 1.0Vp-p	
		1 VGA	
ALARM	INPUT & OUTPUT	4 & 1	
OS		RTOS	
RECORD	COMPRESSION	MPEG-4	
	VIDEO FORMAT	NTSC	PAL
	RESOLUTION	352x240, 704x480	352x288, 704x576
	RECORDING SPEED	MAX. 120fps/4CH(352x240/CH) MAX. 30fps/4CH(704X480/CH)	MAX. 100fps/4CH(352x288/CH) MAX. 25fps/4CH(704X576/CH)
	MODE	Manual, Motion, Sensor, and Schedule	
	METHOD	By Resolution, fps & Quality	
MULTI TASK	TRIPLEX	Record, playback and transfer	
CONTROL UNIT		IR Type Remote Control and Front keys	
SERIAL PORT	CONSOLE	1 RS-232C	
NETWORK	DYNAMIC IP	Supported by DDNS	
	LAN PORT	1 10/100-base T Ethernet	
	FUNCTIONS	Live, Search, P/T/Z/F	
HDD	CAPACITY	1EA Max. 750GB	
BACKUP	NETWORK	Still Image & Video data	
	USB STICK	Still Image & Video data	
ELECTRONICAL SPECIFICATION	POWER SOURCE	DC +12V Adaptor	
	CONSUMPTION	About 25W	
ENVIRONMENTAL SPECIFICATION	TEMPERATURE	5°C ~ 40°C	
	HUMIDITY	30% ~ 90%	
SIZE	DIMENSION	340(W) X 262(D) X 63(H)mm	

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1. Front Panel and Remote controller

The following information will help you operate the front panel controls.

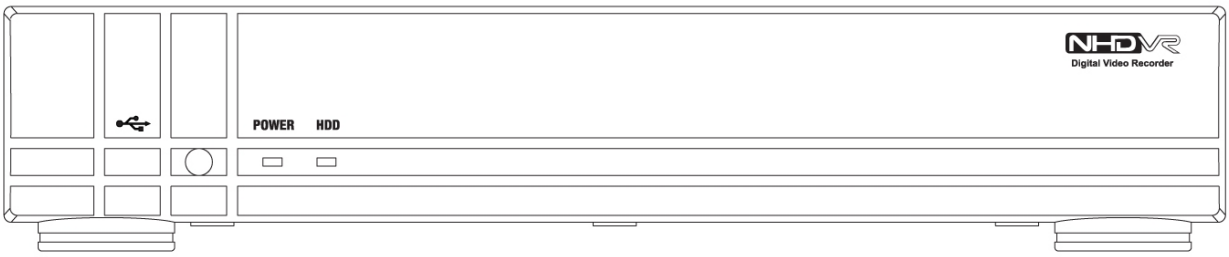


Figure 1.1 Front panel

Table 1.1. Front LED and Port

Name	Description
POWER	LED light is on when power is applied to the system.
HDD	LED light is on when the system is recording video data.
USB port	There is a USB port located on the left side of the front panel. This USB port is used to archive footage into a USB storage device. (USB 2.0 connector)

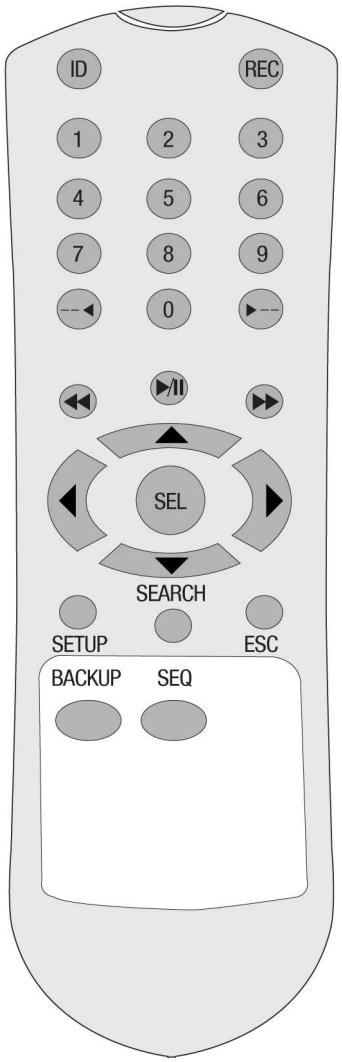


Figure 1.2 Remote controller

F/REW	Jump 60 seconds backward
PLAY/PAUSE	Play/Pause
F/ADV	Jump 60 seconds forward
FF	Fast Forward
SETUP	Setup menu screen
SEQ	Sequence of Full or Quad view
RECORD	Manual recording
SEARCH	Search menu screen
DIRECTION **SELECT**	Direction or number 1 to 4 Enter
ID	DVR ID (ID Button + DVR ID number)
ESC	Esc
NUMBER	Channel 0 to 9

Table 1.2. Description of remote controller

2. Rear Panel and Connections

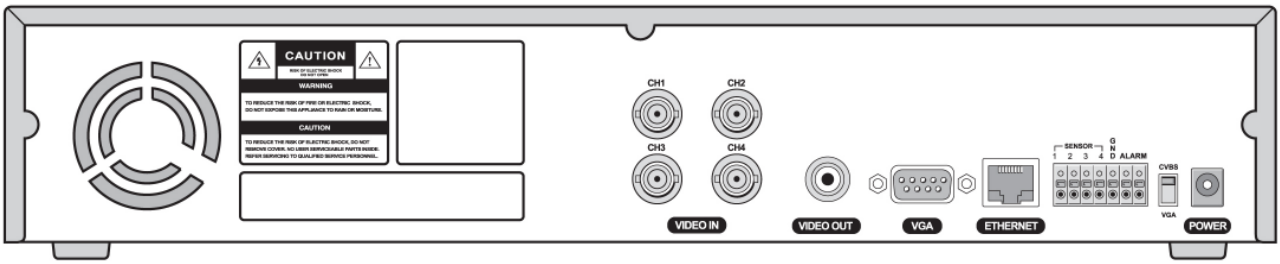


Figure 2.1. Rear Panel

Table 2.1. Rear panel connections

Connection	Purpose
VIDEO IN	Four connectors for video input. Connect camera output to Video-in (NTSC/PAL)
VIDEO OUT	Composite video output in NTSC or PAL format
VGA	Connector for VGA monitor
RS-232	For engineering use only
SENSOR IN	Connector for sensor device connection. 4 sensors can be connected to the equipment sensor 1, 2, 3, 4 are dedicated to Video channel 1, 2, 3, 4, respectively. Either normal open (NO) or normal close (NC) sensor can be selected for each sensor. Simple On/Off switching. Connect two signal lines of sensor (infrared rays sensor, heat perception sensor, magnetic sensor) to the desired sensor number. (You can set the type-NC or NO- of sensor at “Setup” mode). **NOTICE** SENSOR inputs need dried contact only. Do not input any electric signal.
ALARM OUT	Connector for alarm device connection. Provides simple On/Off switching using relay. 0.5A/125V, 1A/30V
LAN	RJ45 connector for LAN connection
DC 12V	Apply 12V DC using the DC adaptor supplied with the equipment.
SWITCHES	Select VGA monitor or CVBS (Composite Video Blanking Sync) monitor. **Do not change the setting when the power is on.** **When the position of the switch is changed, the DVR should be rebooted to apply the new setting.**

3. Setting up the DVR

The following sections detail the initial setup of the DVR

3-1. Setup - Main Screen

When you press the SETUP button, the DVR will ask for a password. The default password is 1111, which can be entered by pressing the up button (▲) 4 times and then pressing the SEL button. We recommend you protect the system by assigning a new password immediately.

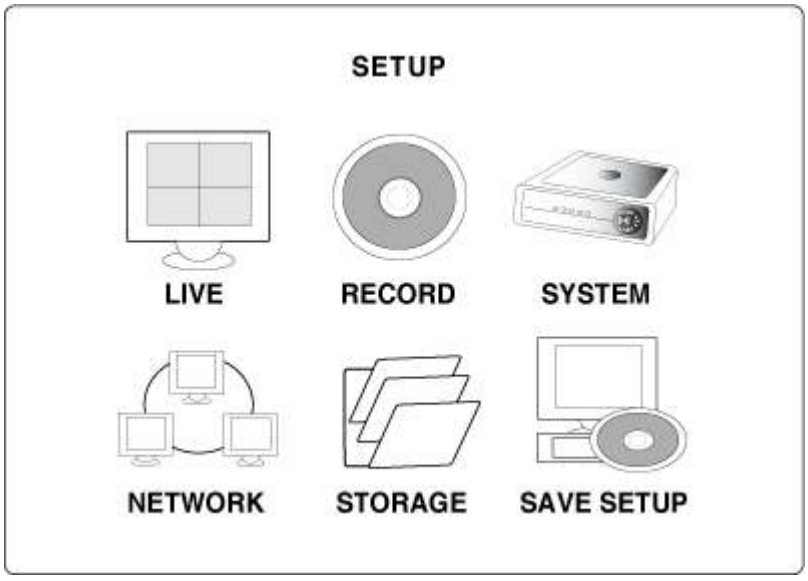


Figure 3.1.1. Setup menu screen

SETUP	LIVE	OSD	
		SEQUENCE	
		SEQ-DWEL TIME	
		EVENT BEEP	
		OSD CONTRAST	
		CHANNEL	DISPLAY, SEQ LIST, BRIGHTNESS, CONTRAST, HUE, SATURATION
		VGA SCREEN MODE	
		ERROR ALARM	
	RECORD	RESOLUTION	
		CHANNEL	Frame rate, Quality, Recoding, Motion zone, Motion sensitivity, Sensor type, Pre-Record, Post-Event Record, Alarm, Alarm Duration, Schedule
	SYSTEM	DVR ID	
		DESCRIPTION	
		LOAD DEFAULT	
		ADMIN PASSWORD	
		NETWORK PASSWORD	
		DATE FORMAT	
		SET DATE & TIME	
		LANGUAGE	
		REMOTE CONTROLLER ID	
		DLS	
	NETWORK	PORT	
		CLIENT ACCESS	
		BANDWIDTH SAVING	
		NE TWORK TYPE	
		DDNS	
		SEND E-MAIL	
	STORAGE	OVERWRITE	
		FORMAT	
		USB UPGRADE	
		SAVE SETUP TO A USB	
		LOAD SETUP FROM A USB	
		VDEO DELETE	
		DELETE VIDEO AFTER	

Table 3.1.1. Setup menu configuration

3-2. Setup – Live Mode

Table 3.2.1. Menu items in LIVE mode setup

Item	Description
OSD	Enable/disable on-screen-display.
SEQUENCE	Enable/disable sequential display of video channels in full screen mode
SEQ-DWELL TIME	Dwell time for each cannel display in sequential display mode
EVENT BEEP	Enable/Disable internal beep alert sound.
OSD CONTRAST	Set the visibility level of the On Screen Display (OSD)
CHANNEL	Select the channel for applying the following settings.
DISPLAY	Enable/disable display of the video channel in live display mode
SEQ LIST	Enable/disable the specified channel to be included in sequential display mode.
BRIGHTNESS	Change the brightness value for the specified channel
CONTRAST	Change the contrast value for the specified channel
HUE	Change the hue value for the specified channel
SATURATION	Change the saturation value for the specified channel
VGA SCREEN MODE	Select VGA screen mode as either FULL or Normal. NOTE: If the mode is changed, the system will reboot.
ERROR ALARM	Enable/Disable alarm for video loss or HDD fail.

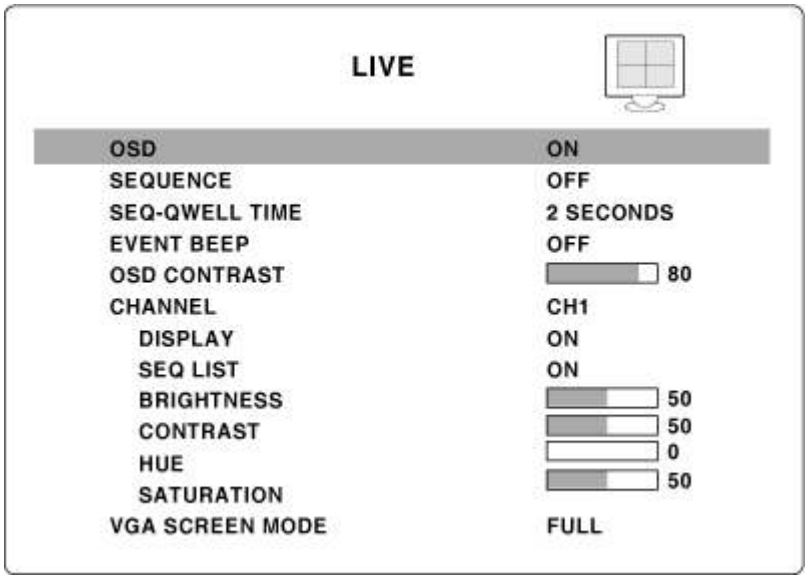


Figure 3.2.1. Live mode setup screen

3-3. Setup – Recording Mode

Table 3.3.1. Menu items in Recording mode setup

Menu item	Description
RESOLUTION	Set resolution to either 704x480(NTSC)/704X576(PAL) or 352x240(NTSC)/352X288(PAL).
CHANNEL	Select the channel for applying the following settings.
FRAME RATE	Set the frame rate for the specified channel. The sum of the frame rate values from each channel cannot exceed maximum frame rates for a particular recording resolution. **Typical values of the maximum frame rate for NTSC video are 120/100fps for 352x240(NTSC)/352X288(PAL) and 30/25 fps for 704x480(NTSC)/704X576(PAL)**
QUALITY	Select the recording quality for the specified channel from normal, high, and superior.
RECORDING	Assign the recording mode for each channel. Recording modes: Continuous, Motion, Sensor, Schedule, and Disable.
MOTION ZONE	Select Full Zone or Partial Zone for motion sensing. If the Partial Zone is selected, screen will be change as shown in figure 3.3.2.
MOTION SENSITIVITY	Set the motion sensitivity for the specified channel. Control the motion sensitivity from 1 to 9.
SENSOR TYPE	Set the type of sensor for the specified channel from none, N/O (normal open), and N/C (normal closed).
PRE RECORD	Enable/disable pre-event recording. Pre-event recording time is 5 sec and only intra-frames are recorded for pre-event recording.
POST EVENT RECORD	Set post event recording time duration for the specified channel
ALARM	Enable/disable alarm generation for the specified channel.
ALARM DURATION	Set alarm time duration for the specified channel.
SCHEDULE	Set recording schedule. If this menu item is selected, screen will change as shown in figure 3.3.3.

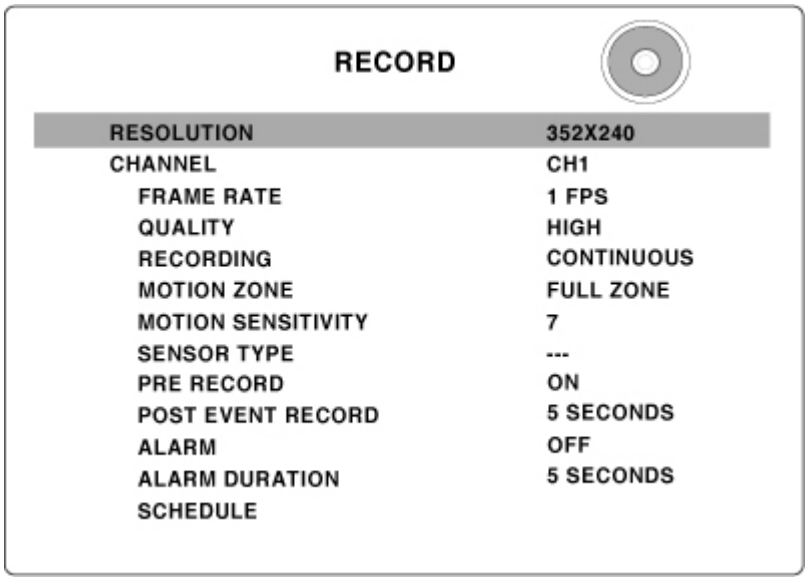


Figure 3.3.1. Recording mode setup screen

3-3-1. Motion Zones

By selecting Partial Zone in the Motion Zone menu, users can set-up the motion sensing zones in the screen shown in figure 3.3.2. Move around each rectangular zone using 4 direction key buttons and press SEL button to include the rectangular region as part of the motion sensing zone. The rectangular blocks included as part of the motion zone are indicated by changing the color of the blocks.

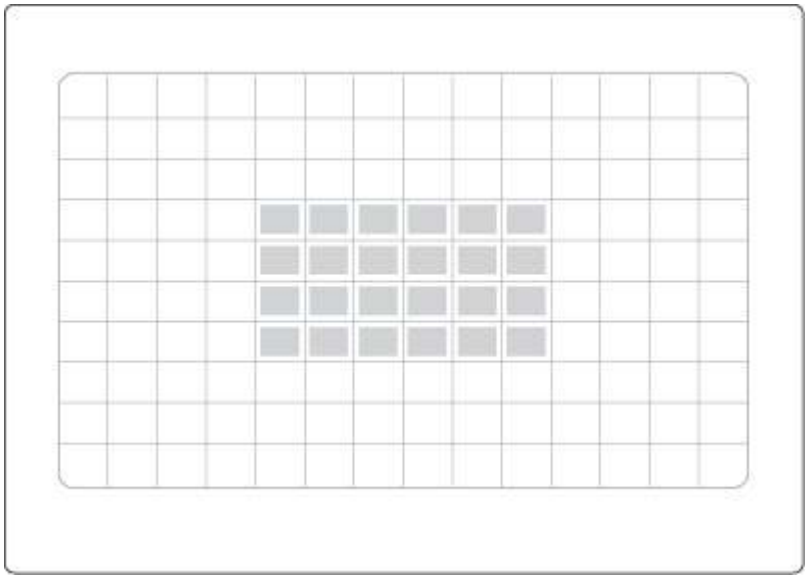


Figure 3.3.2. Motion Zone selection screen

3-3-2. Recording Schedules

To set up a recording schedule, select SCHEDULE in the RECORD menu.

Use the arrow buttons to navigate through the items and set the recording.

[**ALL**]: Selected recording mode using the SEL button is applied to the entire time zone and all channels.

[**SUN to SAT**]: Selected recording mode using the SEL button is applied to the entire time zone for the specified channel.

[**Vertical Bar** " **|** "]: Selected recording mode using the SEL button is applied to the entire channel for the selected time zone. Each vertical bar " | " corresponds to one hour.

[**- Individual Block of Time**]: Selected recording mode using the SEL button is applied to the selected 1-hour increment for the selected channel.

[**SEL**]: The recording mode can be selected using the SEL button.

[**COPY FROM to COPY TO]**: Setup values of recording mode for the selected channel can be copied for another channel setup.

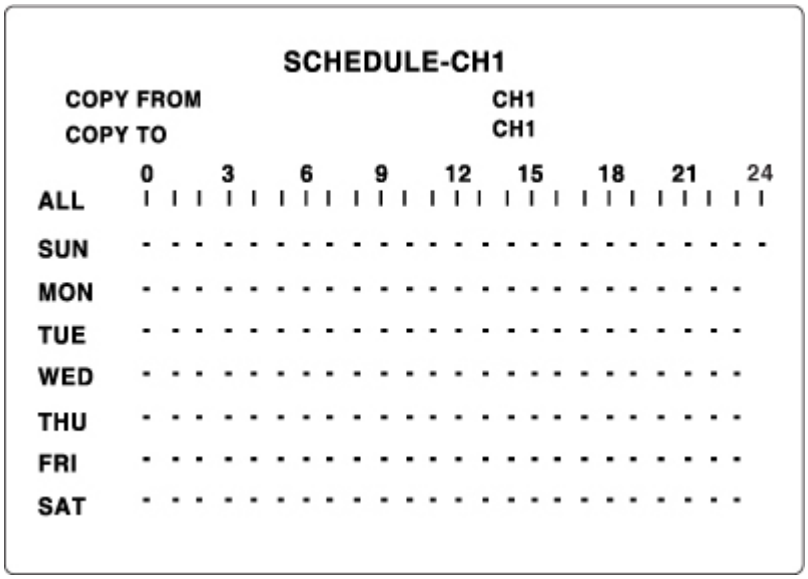


Figure 3.3.3. Schedule recording setup screen

3-4. System

Table 3.4.1. Menu items in System Setup screen

Item	Description
DVR ID	The name of the system. Press the SEL button and move through the position for each alphanumeric character by pressing the LEFT and RIGHT buttons. UP/DOWN buttons are used to change character for each location.
DESCRIPTION	Press SEL to see system information.
LOAD DEFAULT	Choose OFF or ON. If selecting ON, press the SEL button to load defaults.
ADMIN PASSWORD	Set the password for the administrator. Once this menu is selected, the DVR will ask you current password and new password. Follow the procedure provided by the DVR. The password numbers (1,2,3,4) can be input by using direction keys. The default password is 1111.
NETWORK PASSWORD	Set the password of network client. Once this menu is selected, the DVR will ask you current password and new password. The DVR will guide you through the entire process of setting up the user password. The password numbers (1,2,3,4) can be input by using direction keys. The default password is 1111.
DATE FORMAT	Select the preferred date and time display.
SET DATE & TIME	Set the present date and time. If DLS function is ON, user can not enter into this menu and change data and time.
LANGUAGE	Select a language.
REMOTE CONTROLLER ID	Select a ID of remote controller. 1. Select ID from 1 to 9. 2. Press the same number as ID set in DVR on a remote controller 3. Then icon will be displayed on Live screen of DVR that respond to the remote controller.
DLS	User can set to ON or OFF for DLS(Daylight Saving) by using LEFT or RIGHT button. After selecting ON, move the cursor to BEGIN(MM/DD/HH)field and press the SELECT button to set the start time of DLS. And move to END(MM/DD/HH)field to set the stop time of DLS by using UP or DOWN button. **CAUTION:** -DLS can't start from 23:00 -DLS can't be applied, if the date of BEGIN and END is same.

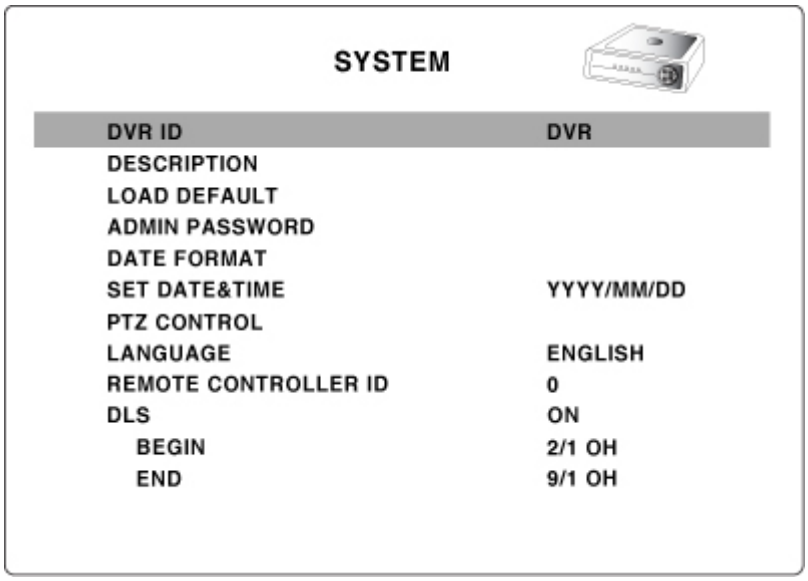


Figure 3.4.1. System setup screen

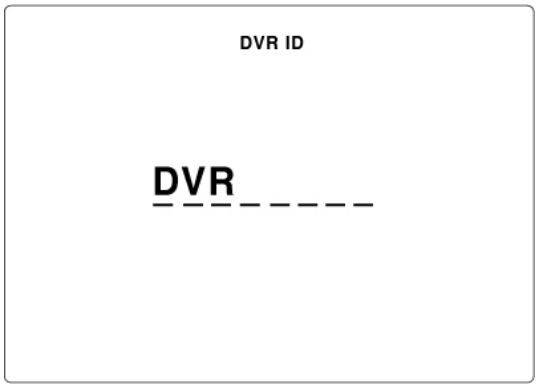


Figure 3.4.2. DVR ID setup screen

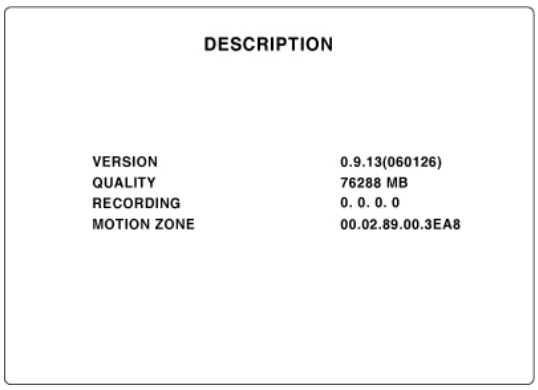


Figure 3.4.3. DVR information display screen

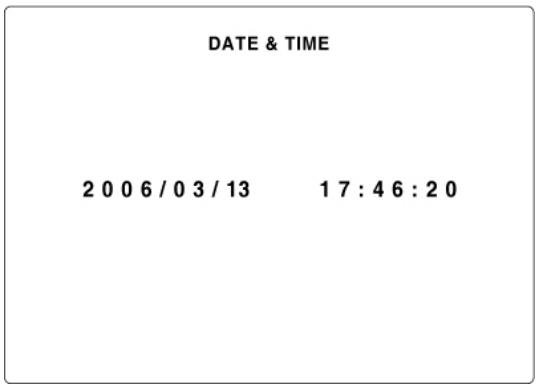


Figure 3.4.4. Date & Time setup screen.

3-5. Network

Set up your network parameters on the Network Setup screen.

Table 3.5.1. Menu items in Network Setup screen

Item	Description
PORT	Port number (Default: 5445)
CLIENT ACCESS	Enable/Disable remote access through client software.
BANDWIDTH SAVING	Enable/Disable only key frame transmission. “ON” mode is favorable for use of low network bandwidth. Mostly, set “OFF” for normal use.
NETWORK TYPE	Set the type of network connection. Options are: LAN, DHCP, ADSL Note. Other parts of the Network Setup screen change depending on what network type you select.
DHCP	Sets to use HDCP (If this is selected, DVR automatically get IP varying from time to time from network.)
ADSL (PPPoE)	ID: Registered ID is necessary for ADSL connection. Password: Registered pasword is necessary for ADSL connection.
LAN	IP: Register IP address that is assigned for DVR. Gateway: Register Gateway that is assigned for DVR. Subnet Mask: Register Subnet Mask that is assigned for DVR.
DDNS	Enable/disable using domain name address through DDNS server. “ON” mode, DDNS server name appears for domain registration. The DDNS sever name is **ns.standalone4ch.com.** **CAUTION**: Do not change this sever name. If this is changed, the DDNS service cannot be used. **Registration** Check the MAC address of DVR from Setup>System>Description. Please contact a distributor or an installer to register your DVR on a DDNS Server. Register the domain name on DDNS Server. After the domain name and MAC address of the DVR are registered on a DDNS server, user can access the network with their own domain name.

]

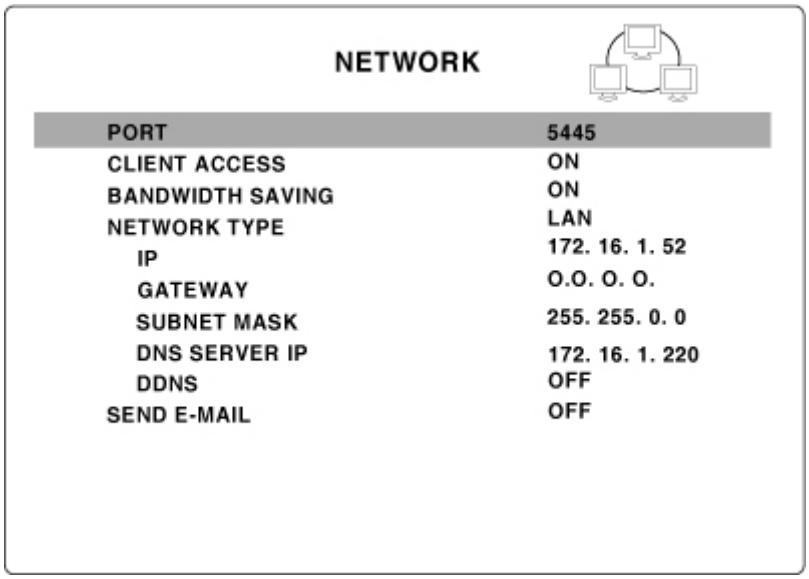


Figure 3.5.1. Network setup screen

3-5-1. Ports

When you connect one or more DVRs to a network through an IP sharing device, each device must have a unique TCP port number for access to each unit from outside the LAN. Also, the IP sharing device must be configured for port forwarding so when each port is accessed on the IP sharing device, it will forward to the appropriate DVR.

Note: This port number is listed next to the Port menu option in the Network Setup screen. If you plan to access the DVR units only from within the same LAN, the TCP port does not have to be changed.

Network access beyond Router

In order to access beyond Router (Firewall), user must open 1 TCP port for Command level, Live channels, and Storage channels. If this port is not open properly, user can not access DVR beyond a router.

If DVR sets port number with 5445, user has to open 1 TCP port of 5445.

3-5-2. Network types

3-5-2-1. LAN

1. for the use of fixed IP. (See your network administrator if you do not have this information.)
2. When DVR is installed in IP sharer that is connected with ADSL, a user can assign fixed IP to DVR from IP sharer itself using “DMZ” function out of such sharer.
3. Input IP set in DMZ on “IP” field and Gateway of ADSL modem on “Gateway” field. Similarly, for Subnet Mask, DNS address, input relevant values in IP sharer.

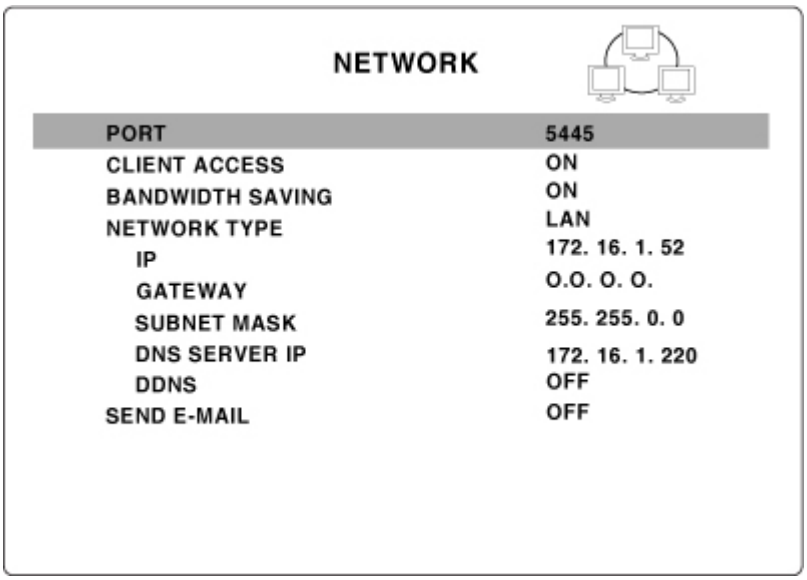


Figure 3.5.2. Network setup screen - LAN

Table 3.5.2. LAN

Item	Description
IP	The fixed IP address of the DVR unit
GATEWAY	The IP address of the Gateway
SUBNET MASK	The subnet mask for the LAN
DNS	The address for the DNS server

3-5-2-2. DHCP

An IP address is automatically assigned by the DHCP server, which automatically assigns IP address and other parameters to new devices.

When ADSL or other network being used adopts variable IP method, not fixed IP. This option is used as a way to automatically get IP address.

.

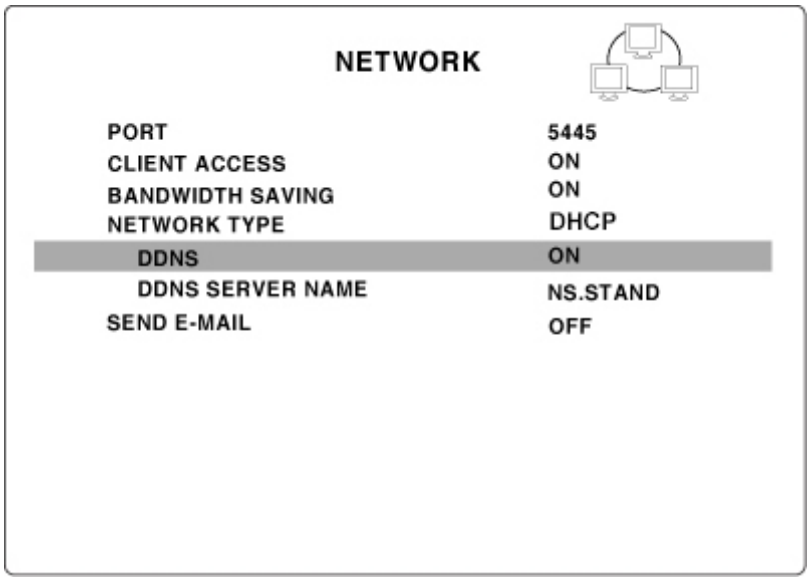


Figure 3.5.3. Network setup screen - DHCP

3-5-2-3. ADSL (PPPOE)

To use this ADSL (PPPoE) function when the network type connecting the DVR is using PPPoE method.

If ADSL type is not using inputting IP and Password like VDSL or DVR is installed in IP sharer, a user can not select this function. In this case, a user should select DHCP or LAN.

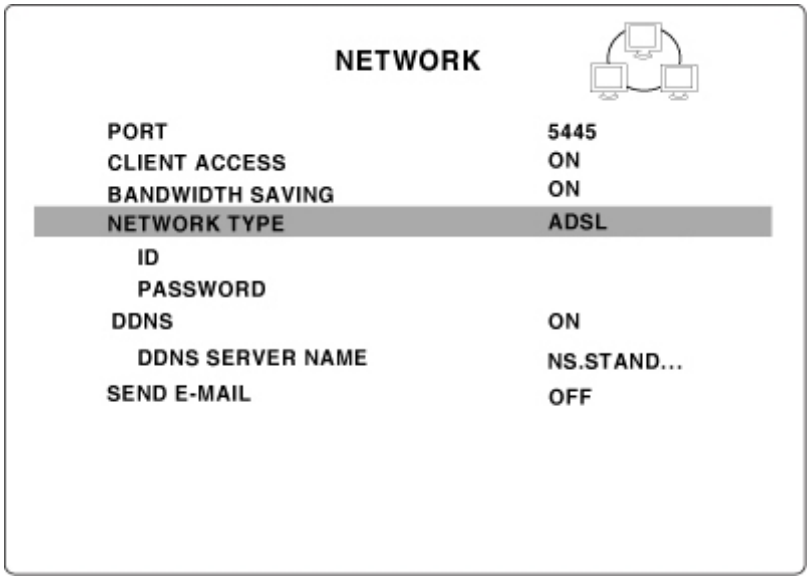


Figure 3.5.4. Network setup screen - ADSL

Table 3.5.3. ADSL

Item	Description
ID	The user ID for ADSL connection
PASSWORD	The password for ADSL connection

3-6. Storage

User can set recording mode in the hard disk drive or initiate format of the hard disk drive.

Table 3.6.1. Storage setup

Item	Description
OVERWRITE	Overwrite existing material when hard disk drive is full
FORMAT	Format hard disk drive
USB UPGRADE	The firmware of DVR can be upgraded through USB port. In order to upgrade, the upgrade firmware must firstly be downloaded and copied into the USB device. Create a new folder in the USB memory stick and copy the upgrade firmware “app.bin” into the folder. (**This folder name should be “upgrade”.)** After the upgrade firmware is copied into the USB memory stick, do the following; 1. Connect USB memory stick onto the USB port. 2. Go to the STORAGE>USB UPGRADE. 3. Select CONFIRM and then the upgrading will start automatically. 4. After the upgrade is completed, DVR will reboot automatically.
SAVE SETUP TO A USB	User can save the current configuration of DVR to the USB memory stick. Put the USB stick on the front panel and press SEL to start the saving process
LOAD SETUP FROM A USB	User can upload the configuration of DVR to another DVR using the USB Memory stick. Put the USB stick on the front panel and press SEL to start the loading process. After upgrade is completed, DVR will reboot automatically and setup value will be applied.
VIDEO DELETE	Enable/disable recording limit.
DELETE VIDEO AFTER	Set the limit days for recording to the hard disk drive from 1 to 60 days.

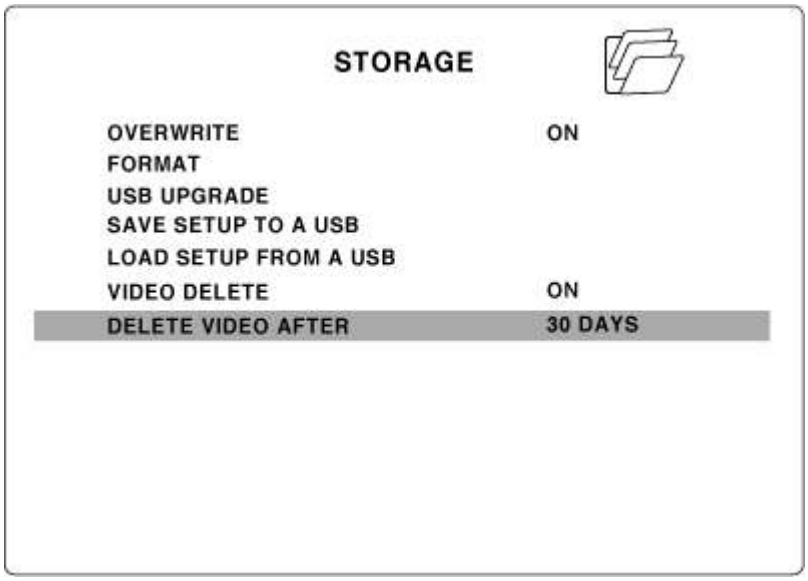


Figure 3.6.1. Storage setup screen

Figure 3.6.2. Storage setup –USB UPGRADE

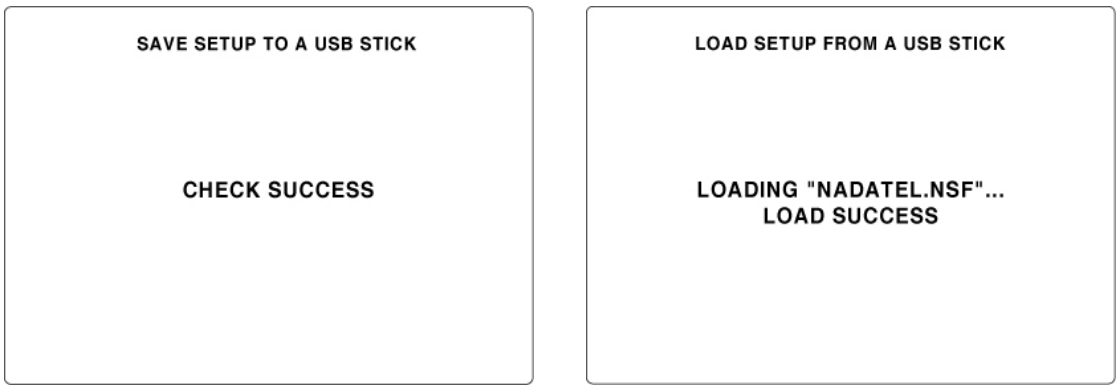


Figure 3.6.3. Storage setup – SAVE SETUP TO A USB & LOAD SETUP FROM A USB

4. LIVE & SEARCH

4-1. Live Window

In the Live window, video inputs from the cameras are displayed on the configuration of the live setup. Figure 4.1.1 shows the layout of the live screen. Various indicators showing the status of the DVR are shown as OSD symbols. Refer to Table 4.1.1 for the meanings of the indicators.

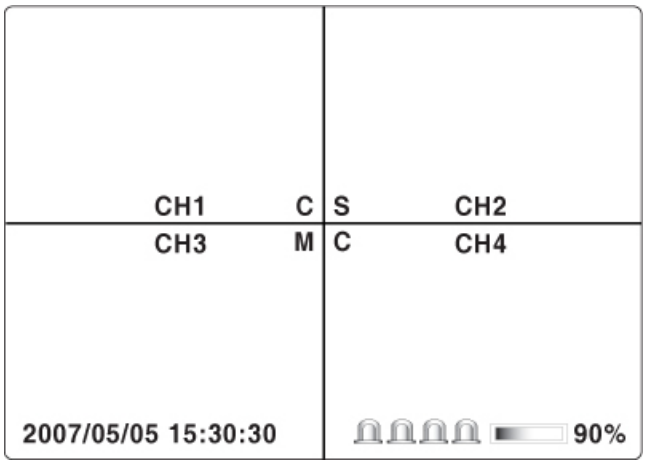


Figure 4.1.1. Live display screen

Table 4.1.1. Indicator ICONS in Live window

Indicator	Description
	Continuous recording in progress
	Manual recording in progress
	Sensor alarm recording in progress
	Motion alarm recording in progress
	Indicates no alarm event
	Alarm indicator. When there is an alarm (sensor alarm or motion alarm) in the video channel, this icon will be highlighted in bright red.
	Indicates that alarm output is activated.
	Indicates that a network client is connected to the DVR.
	Indicates that sequencing mode is enabled.
	Indicates the HDD is being recycled
	Indicates the percentage of recorded data into HDD
	Indicates there is no video signal input

Table 4.1.2. Button functions of remote controller in Live window

Button	Description
	Select channel to be displayed in full screen mode.
	Switch between full screen and quad display mode.
SEQ	Press to start auto sequencing of the screen in full screen mode. (Toggle)
RECORD	Press to start and stop manual recording.
SEARCH	Press to go to the search menu. Event search /Time line search /Log /Archive search
ARCH	Press to capture a still image. The still image will be stored into hard drive. It can be transferred to the USB device.
SETUP	Press to launch SETUP menu.
ESC	Press for temporal storage of the changed value or to return to the previous menu screen.

4-2. SEARCH window

Press SEARCH in live mode to enter the Search screen.

When you press the Search button, DVR asks for a password as in Figure 4-2-1.

Enter the password using the arrow controls.

There are 7 ways of search menu such as TIMELINE, EVENT, GO TO FIRST TIME, GO TO LAST TIME, GO TO SPECIFIC TIME, LOG, and ARCHIVE on the screen.

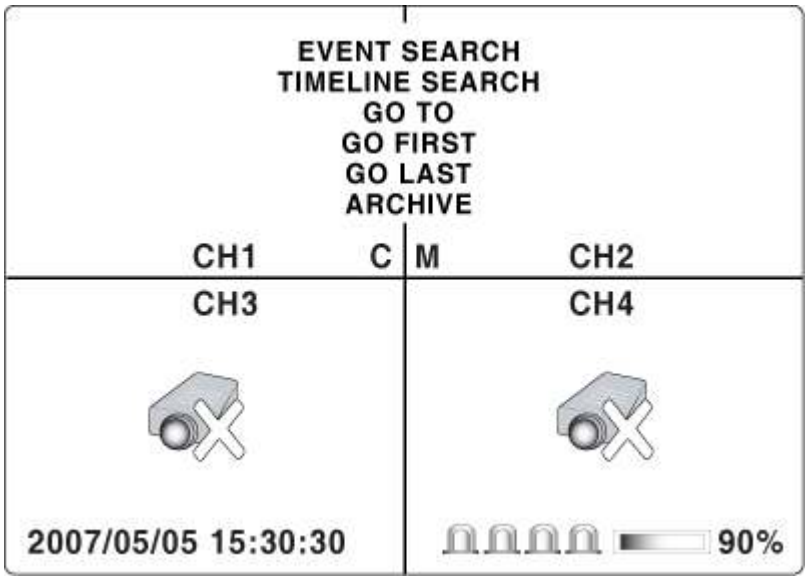


Figure 4.2.1. Search window

4-2-1. EVENT Search

The Event Search window is used to find stored video. Three categories of search filters can be applied: DATE, CHANNEL and TYPE. Press SEL to select a value and move down to the next category and use the UP arrow button to move up to the categories you have previously entered. The ESC button will return the user to the previous screen.

1. Select the date of the video to begin searching. Use the LEFT, RIGHT, UP, and DOWN buttons to navigate through the days.
2. Once you have selected the date, press SEL to move to the CHANNEL selector.
3. Use LEFT and RIGHT buttons to change the channel selection from ALL to any of the available channels.
4. Once you have selected the channel, press SEL to move to the TYPE selector.
5. Use the LEFT and RIGHT buttons to change the type of recording to ALL, MOTION, SENSOR, MANUAL, or CONTINUOUS.
6. Once you have selected the type of recording to search for, press SEL to produce a list of instances that fit your search criteria.

7. Use the UP and DOWN buttons to scroll through the on-screen listings.
8. Use the LEFT and RIGHT buttons to display a list of events that happened previous to or after the current selection.
9. Once the desired event has been selected, press SEL to start playing back the selected video.
10. Press the BACKUP button to launch the archiving function in playback mode.

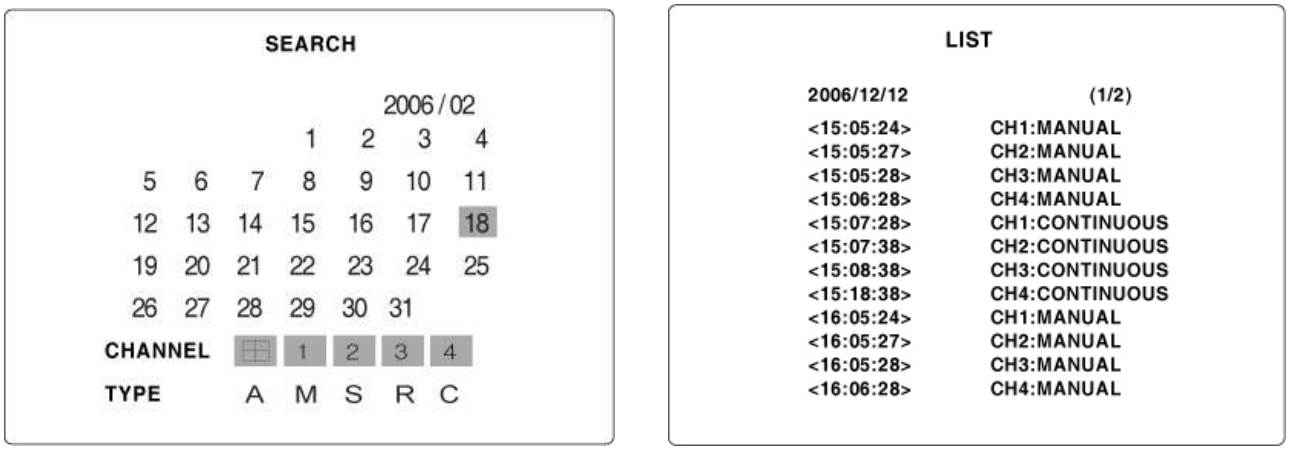


Figure 4.2.2. Event search screen

4-2-2. TIME LINE Search

The TIME-LINE search window is used to find the stored video by using the time line bar.

1. Select the date of the video to begin searching by using the LEFT, RIGHT, UP and DOWN buttons to navigate through the days.
2. Once you have selected the date, press the SEL button to move to the time line search window.
3. Use LEFT / F/ADV or RIGHT/ F/REW buttons to select a time zone on the 24 hours time table.

Note: The recording mode is indicated on the screen as below.

C: Continuous-Green

M: Motion-Yellow

S: Sensor-Red

R: Manual -Purple

1. Once you have selected the time zone, press the SEL button to move to the 60 minutes time table.
2. Select All or a specific channel to search by using the UP and DOWN arrow buttons.
3. Once you select the channel, use the LEFT / F/ADV or RIGHT/ F/REW arrow buttons to move the time line select bar (blue) to the point you wish to start playing the video clip.
4. Press the SEL button to playback the recorded video.

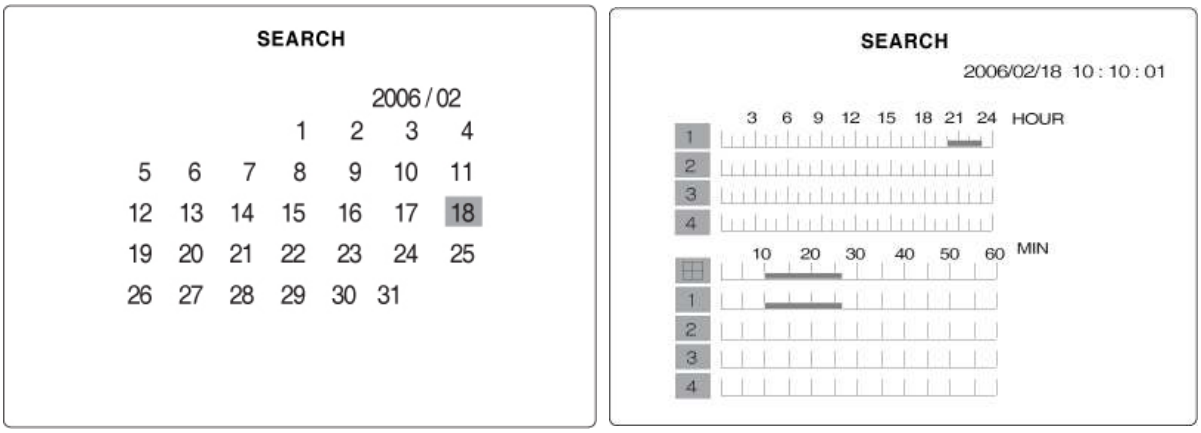


Figure 4.2.4. Time line search screen

4-2-3. GO TO

You can search for specified data by setting the time and date in this menu. Use the LEFT or RIGHT button to move from left to right in this menu. Use the UP or DOWN button to set the date and time.

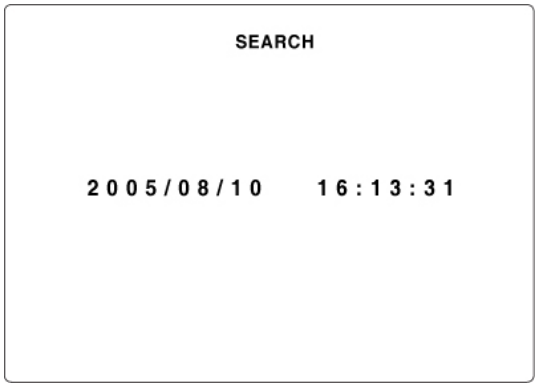


Figure 4.2.5. GO TO search screen

4-2-4. GO FIRST

You can access to the first data which has been recorded into the HDD disk by pressing this menu.

4-2-5. GO LAST

You can access to the last data which has been recorded into the HDD disk by pressing this menu.

4-2-6. LOG List

User can see the log list by selecting this item.

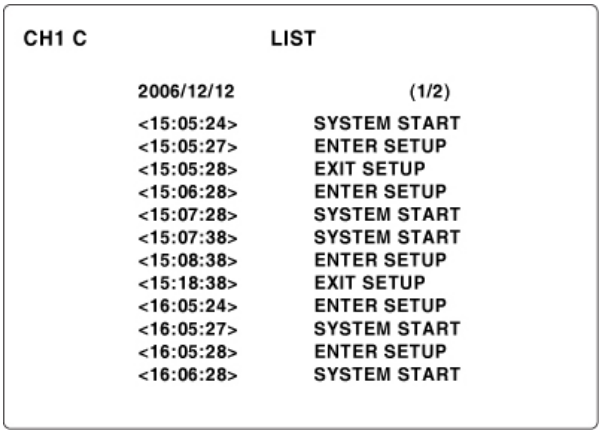


Figure 4.2.6. Log list screen

4-2-7. ARCHIVE Search

The ARCHIVE SEARCH window is used to find the stored video.

1. Select the date on the calendar to begin searching by using the LEFT or RIGHT button.
2. Once you have selected the date, press the SEL button to move to the list of recording data.
3. Use the UP or DOWN button to scroll through the onscreen listings.
4. Once the desired event has been selected, press the SEL button to see the selected video in paused mode.
5. Press the ARCH button to archive the video into USB memory stick.

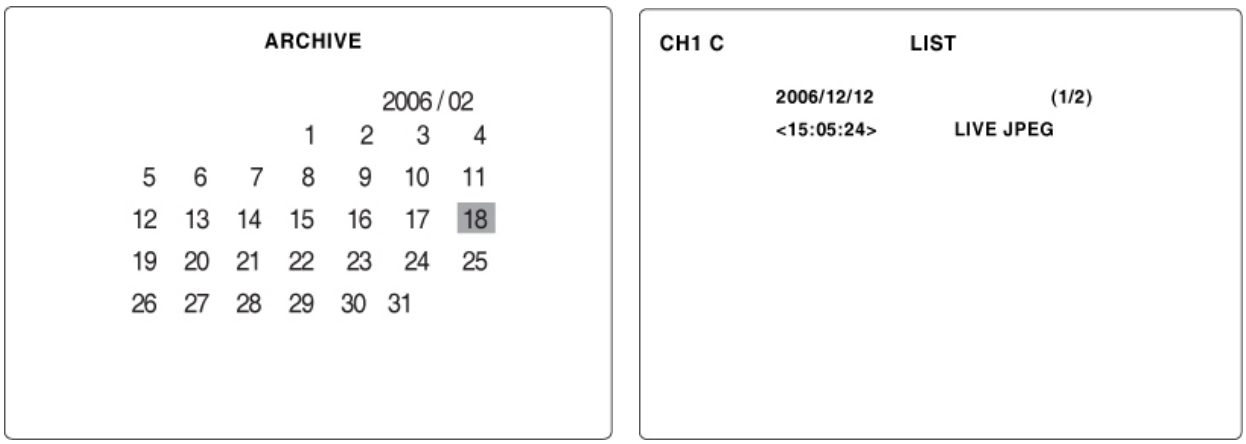


Figure 4.2.7. Archive search screen

4-3. Playback mode

During the playback of a recorded event, the mode changes from SEARCH to PLAY. While in PLAY mode, you may return to SEARCH LIST by pressing the ESC button. Playback starts in quad mode with channel 1 highlighted by default. If audio is enabled, it will only play from the highlighted channel.

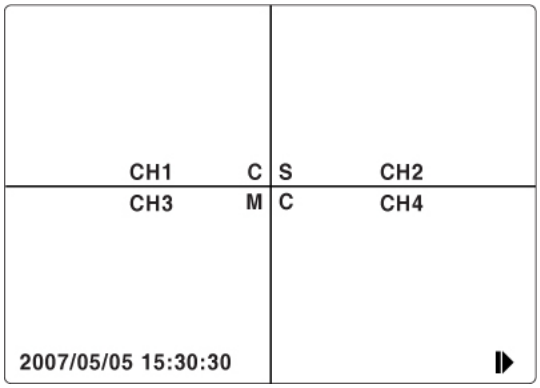


Figure 4.4.1. Playback mode screen

Table 4.4.1. Button functions of remote controller in Playback mode

Button	Description
ESC	Return to the previous menu screen, search list, or exit menu
◀◀ REW	Press to rewind the footage at 1x, 2x, and 4x speeds. Reverse playback speed is shown as -1x (normal), -2x (2 times normal), and -4x (4 times normal) at the bottom right of the screen.
••◀ F/REW	Jump/Step backward. – The playback position moves 60 seconds backward.
PLAY/PAUSE	Press to play or pause recorded video.
F/ADV ▶••	Jump/Step forward –Playback position moves 60 seconds forward.
FF ▶▶	Press to fast forward the footage at 1x, 2x, and 4x speeds. Playback speed is indicated as +1X, +2X, and +4X for normal, twice, and 4 times of the regular speed at the bottom right of the screen.
	UP: 1CH, RIGHT: 2CH, DOWN: 3CH, and LEFT: 4CH to be highlighted UP: NO. 1, RIGHT: NO. 2, DOWN: NO. 3, and LEFT: NO. 4CH to input password
ARCH	Press the ARCH button to archive the video into HDD.

5. Archiving and Backup

To backup a still image or video to a USB storage device, user must firstly archive a still image or video to the hard drive.

5-1. Archiving Still images or Video

Still images can be captured and archived into the hard drive in live mode or while playing back.

1. In live mode, press ARCH button to capture and archive the still image. Once you press the ARCH button, the screen will be displayed as shown in Figure 5.1.1.

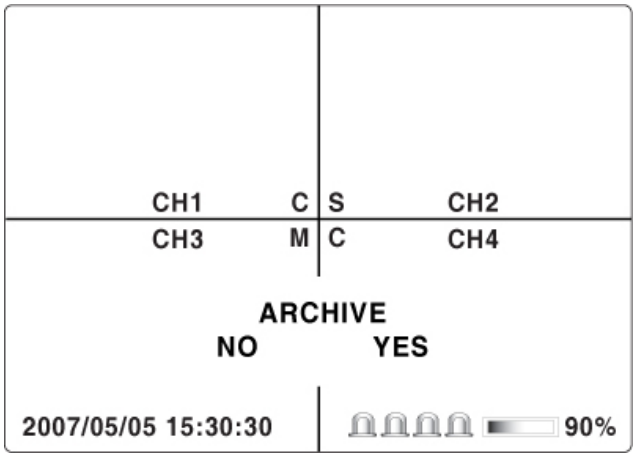


Figure 5.1.1. Archive screen in Live mode

2. In playback mode, the DVR will ask whether to store still image or video. If the user selects still image or video, it will store captured image or video into the HDD. User can find the list of archived data in ARCHIVE search menu.

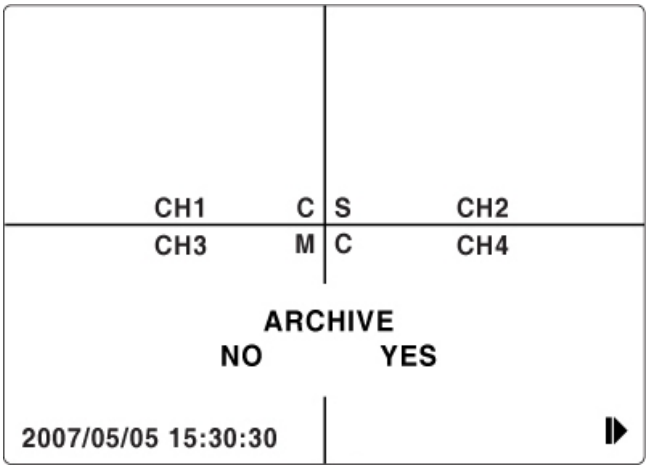


Figure 5.1.2. Archive screen in Playback mode

5-2. Backup still images or videos on USB memory stick

1. To begin transferring stored image or video into a USB memory stick, connect a USB memory stick.

2. Press the SEARCH button to bring up the ARCHIVE search screen which will allow you to specify a date and time to search for stored images or videos.

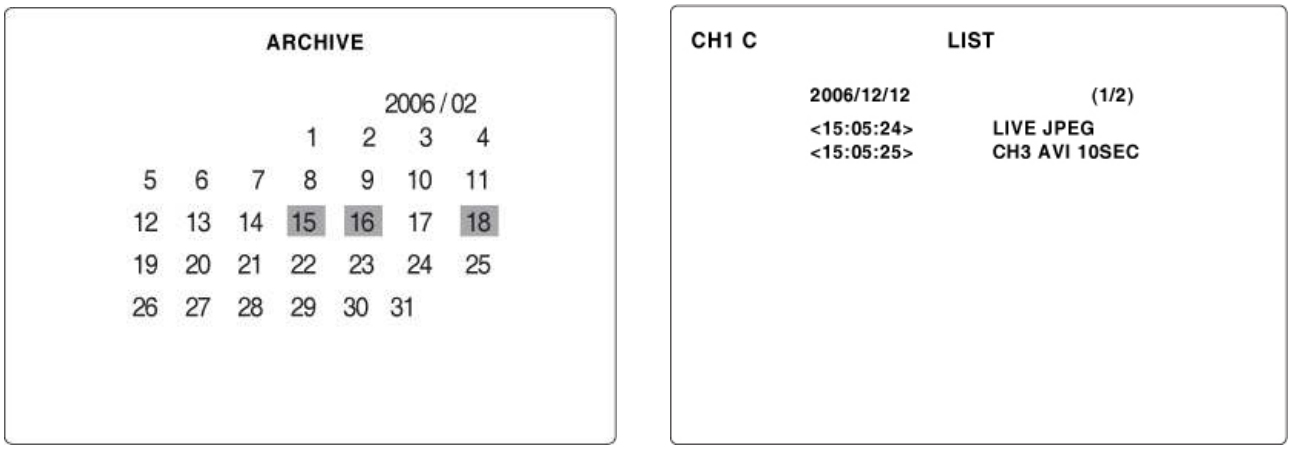


Figure 5.2.1.Archive search screen

3. Press the SEL button to retrieve lists of archived image or video.

4. Select and display one of the files on the screen in the archived list by using the UP or DOWN button.

5. And then press the ARCH button to transfer the data into the USB memory stick.

6. If there is NO enough space in the USB memory stick, the DVR will popup the message that there is no space in the USB memory stick.

5-3. Playing backup file

If there is proper COCDEC installed in PC, it is possible that the backup data can not be play-backed. In case of that the backup data in USB device is not properly play backed in multi-media S/W on PC, user needs to install ‘ffdshow’ CODEC that supplied on Network Client S/W CD.

6. Network – By an exclusive viewer

The DVR provides a live remote monitoring feature. Remote monitoring requires installation of a software client program on your PC.

NOTICE

In a high bandwidth network, a maximum of four users can access one DVR simultaneously. In a low bandwidth network it is recommended that only one user access the DVR at a time.

For remote viewing, the frame rate is limited to 1 frame/sec when there is no recording operation in the DVR. When the DVR is recording, the video frame rate for remote live monitoring will follow the recording frame rate on the DVR.

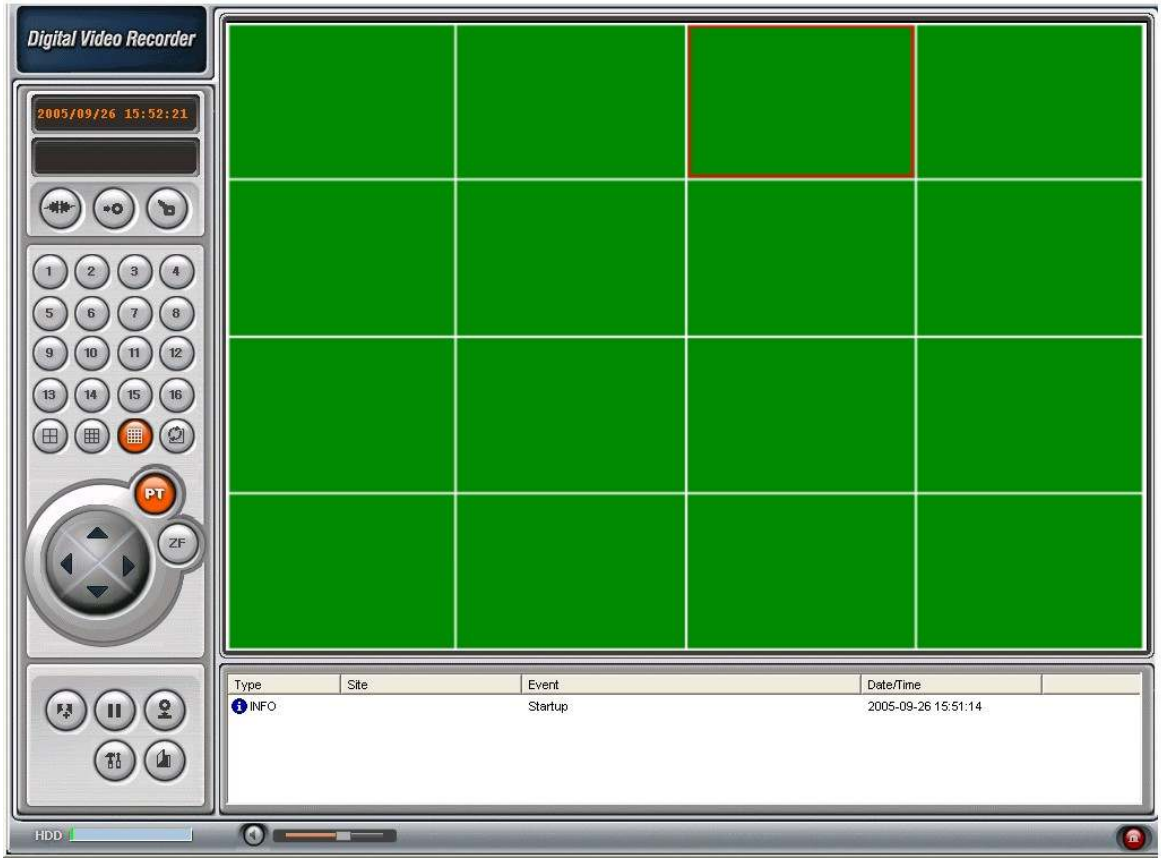


Figure 6.1. Main user interface

6-1. Overview

The remote software supports remote live viewing, search, playback and system configurations.

By installing the Network Client Viewer on a Windows PC, you can monitor real-time and recorded images via optional Ethernet network.

6-2. Minimum PC requirements

PC Specification	Minimum Requirement	Recommended
CPU	Intel Pentium Ⅲ	Intel Pentium Ⅳ
	500Mhz	2Ghz
Memory	128MB	256MB
VGA	16MB	64MB
Resolution	1024x768	1024x768
Disk space	10MB	10MB
OS	Windows 2000	Windows 2000, Professional, XP, Vista
Network	10/100Base T	10/100Base T
Others	Direct X 8.1	Direct X 9.0 or Higher

Before installing the program, check the PC specifications. The Network Client Viewer may not perform correctly if the PC does not meet the minimum requirements.

6-3. Installing the program

1. Insert the provided CD into the CD-ROM drive of your PC.
2. Run

to start the installation process.
3. Follow the on-screen directions.
4. Double click the

icon to start the program.

6-4. Live viewer

When installation is complete, double click the

icon on your desktop to start the program.

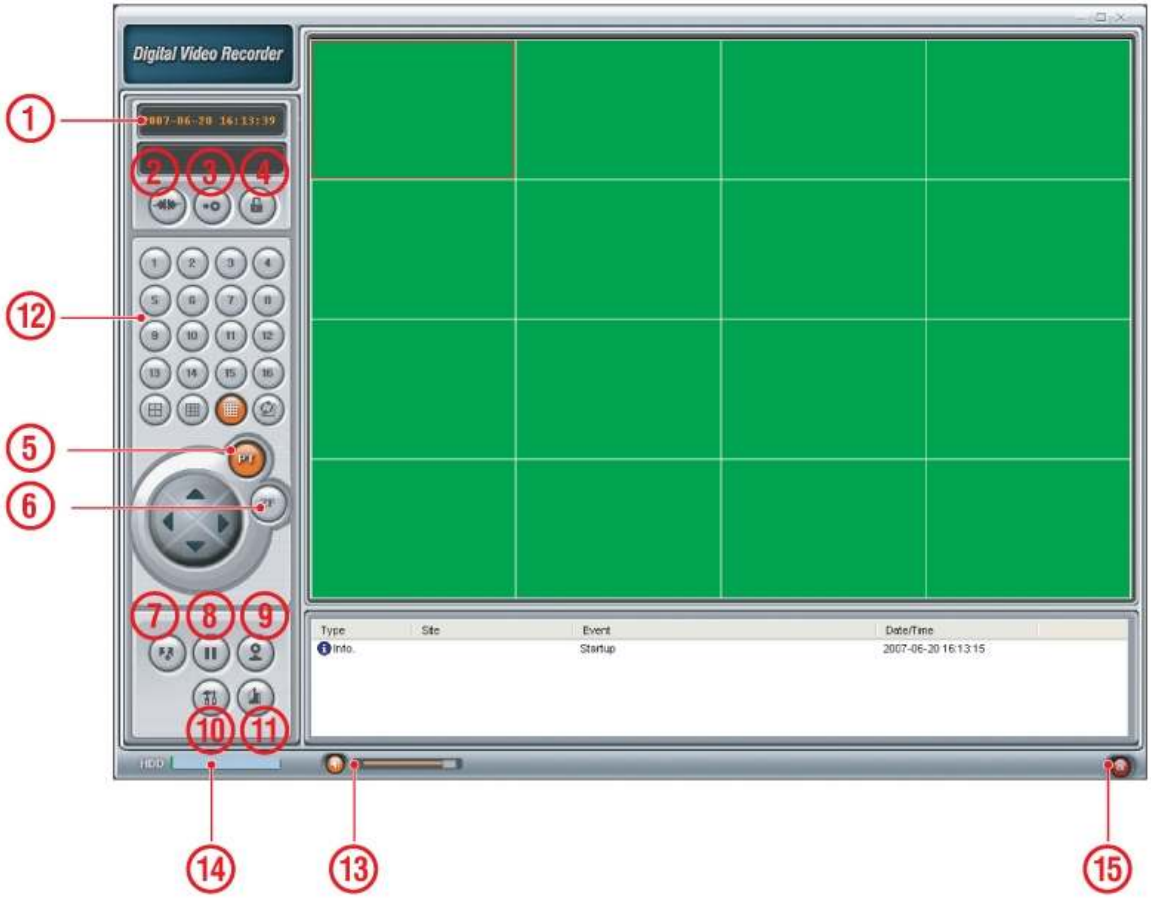
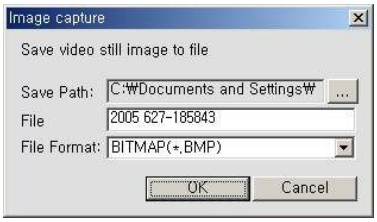


Figure 6.4.1. Main user interface

Table 6.4.1. Main controls in Live

NO	Button	Description
1	**DATE & TIME**	Displays the current date and time.
2	**CONNECT**	Click this icon to connect to the DVR
3	**SEARCH**	Click this icon to search for recorded video.
4	**LOCK/ UNLOCK**	Click this icon to lock/unlock all operations of the client software. Once the lock or unlock icon is clicked, this pop up window appears. Remember the password and enter it when you operate the client software.
5	**PAN/TILT**	Use these buttons to control the PAN/TILT features on the remote camera.

6	**ZOOM/ FOCUS**	Use these buttons to control the ZOOM/ FOCUS features on the remote camera.
7	**CAPTURE**	Click this icon to capture a still image. Once the capture icon is clicked, this pop-up window appears. The still image is captured in either jpeg or bmp file format. 
8	**PLAY/PAUSE**	Click this icon to play/pause live video.
9	**RECORD**	Enable or disable recording of live video to local disk.
10	**SETUP**	Click this icon to setup configuration of client software.
11	**EXIT**	Click this icon to exit the client software.
12	**DISPLAY MODE**	Click these icons to select display mode.
13	**AUDIO**	Use the volume control bar to set the audio level. The audio can be turned on or off by clicking the audio icon.
14	**HDD USAGE**	DVR HDD storage Indicator.
15	**ALARM**	The alarm output indicator lights up for 5 seconds if alarm output is activated on the DVR.

6-5. Search and Playback Viewer

The search window can be accessed by clicking the search icon on the upper right of the main user interface.

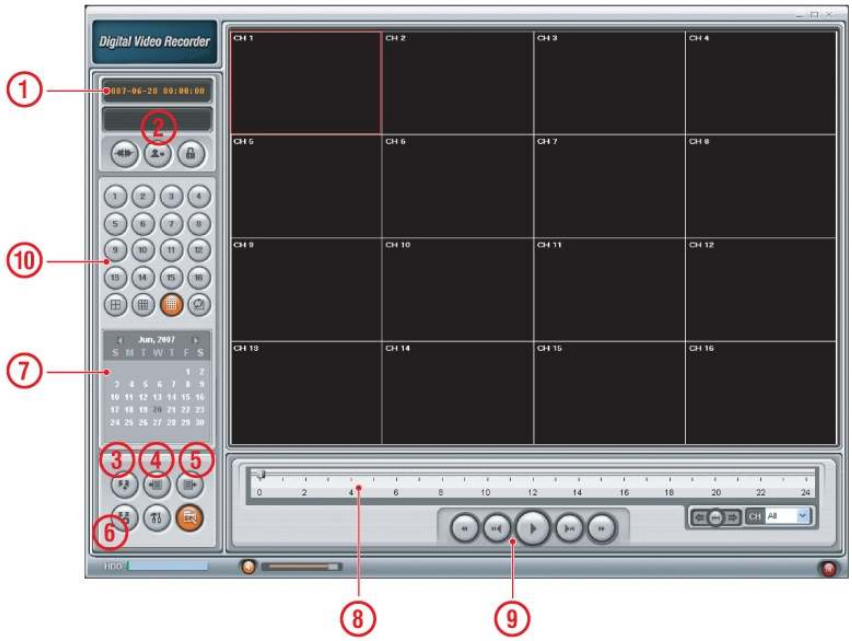


Figure 6.5.1. Main user interface

Table 6.5.1. Main controls in Search

No	Button	Description
1	**DATE & TIME**	Displays the recording time of the data selected on the time bar at the bottom of the main user interface.
2	**LIVE**	Click this icon to see live video.
3	**CAPTURE**	Click this icon to capture a still image of recorded video. Once the capture icon is clicked, this pop up window appears. The still image is captured in either jpeg or bmp file format.
4	**MARK IN**	Click this icon to set the start time for video backup.
5	**MARK OUT**	Click this icon to set the ending time for video backup.
6	**BACKUP**	Click this icon to backup the selected recorded video in AVI format.
7	**SEARCH CALENDAR**	The calendar shows dates with recorded video in a light blue and the selected date in dark blue.
8	**TIMELINE BAR**	The timeline shows recorded data in dark blue on the bar. You can adjust the time-line scale and move it to the time you wish to play back. Click the play icon to display the recorded video.

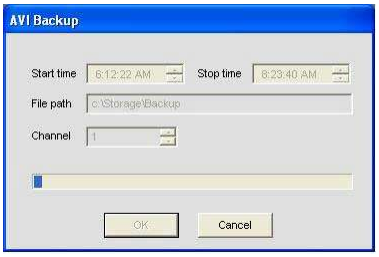
6-5-1. Backup

You can back up recorded video in AVI format from the search viewer.

1. Click the MARK IN icon when the scale on the blue timeline is on the time you wish to the backup file to begin.

2. Set the ending time on the blue timeline by dragging the scale to the ending time for the backup file and clicking the MARK OUT icon . The color of the timeline between the beginning time and ending time will change to dark green.

3. Next, click the backup icon and the pop up window appears as below.



The beginning and ending time can also be set on this window.

After selecting a channel for backup, click the OK button. The backup will begin.

6-6. PC System configuration

Click the setup icon to setup the configuration of PC that the network client S/W is installed.

6-6-1. General

Once you click the setup icon, this pop up window appears. Select security options and set a password. When you access any of the selected functions, you will need to enter the password.

You can also set the save path for capturing and backup.

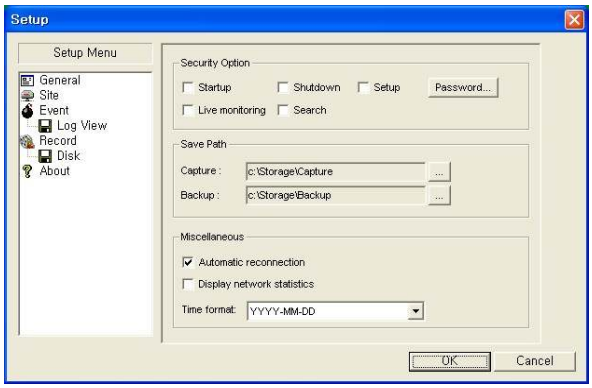
Security Option: Set a password for security options.

Save Path: Specify the location to record the receiving video for Backup and still image for Capture.

Automatic reconnection: If a user selects this function, the client S/W will automatically try to connect to the previously connected IP address if the network connection is lost.

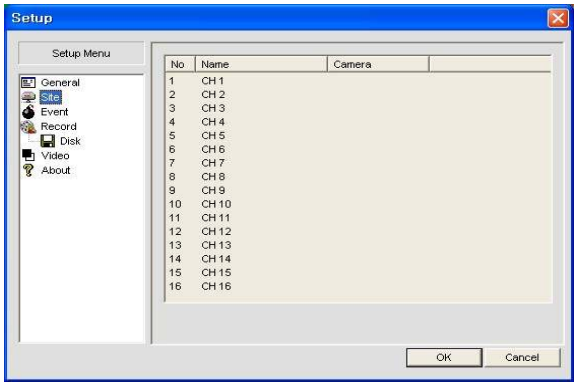
Display network statistics: If a user selects this function, the client S/W will display network status, Bit rate and Frame rate.

Time Format: Change the way the Client software displays the time.



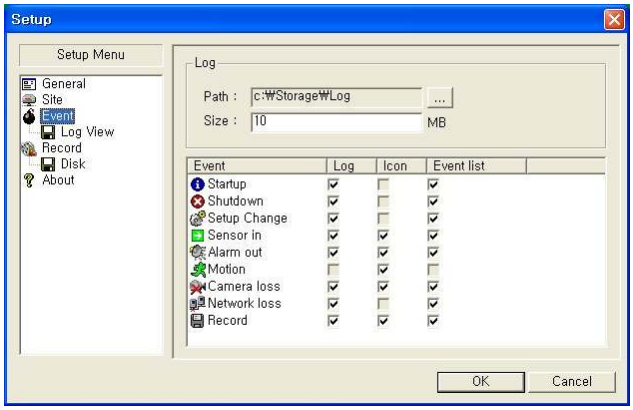
9-6-2. Site

This option shows the channel information of the DVR and allows you to change the channel title.



9-6-3. Event

You can set event items, the amount of local disk space you want to allow and the save path for the log file.

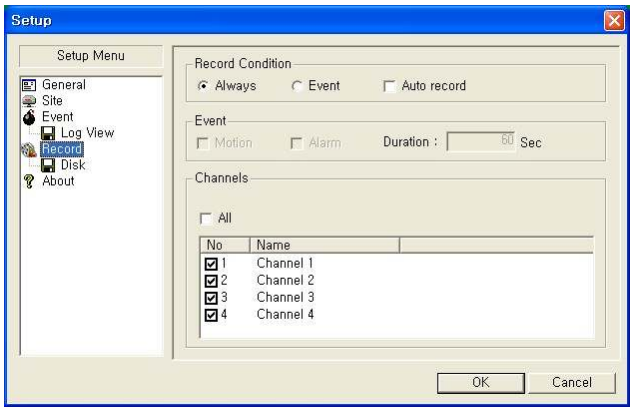


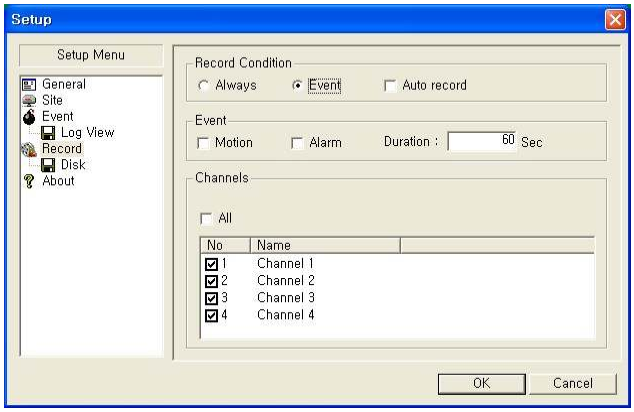
- LOG – Select to save event log into ‘log file’.
- ICON – Select to display the event on live video.
- EVENT LIST – Select to show the event in the ‘Event List” window of live mode.

You can search and check the recorded log data.

9-6-4. Record

You can set the recording conditions for Always, Event, or Auto recording. You can also select individual channels or all channels to record.

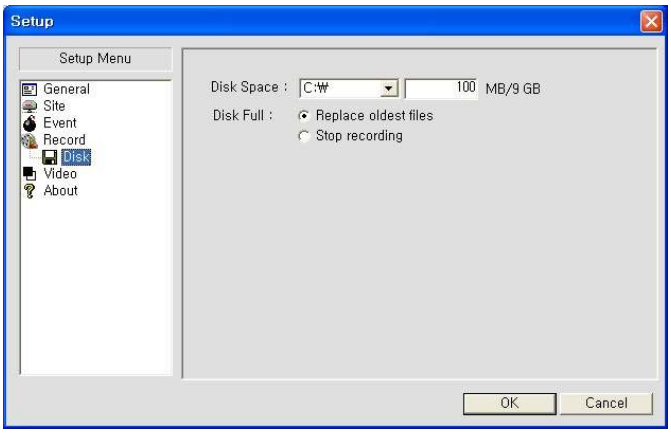




When you set the recording condition to Event, you can set event for motion or alarm with duration. You can also set each or all channels to record.

9-6-5. Disk

You can select which local disk to use and the amount of disk space you want to allow the program to use for recording. You can also choose to overwrite data or stop recording when the maximum amount of disk space is full.

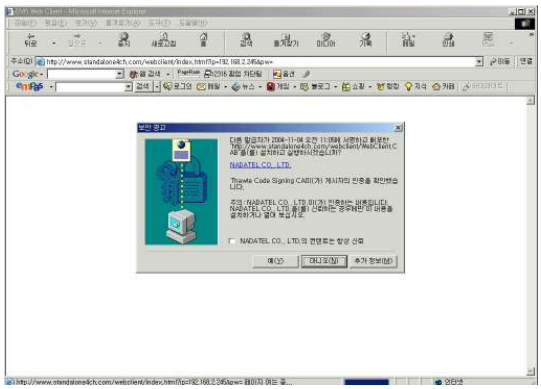


7. Network – By an web-browser viewer

The DVR provides a live remote monitoring feature by web-browser viewer.

7-1. Download Web Brower Viewer and Connection

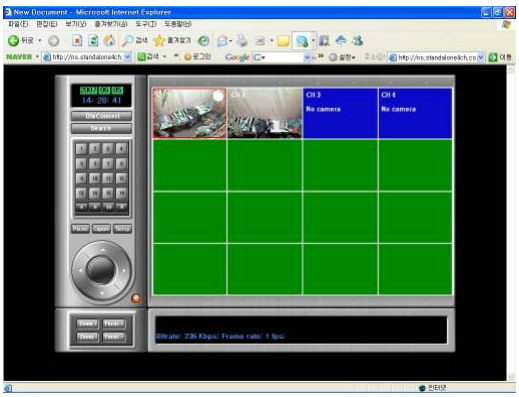
1. User needs to access http://www.anytimeview.com to get a web browser viewer. Then the window will appear as bellow. Click “YES” to download Web Browser Viewer from the server run by the manufacturer.



2. Web Browser Viewer will be downloaded and installed.

3. Click button and enter IP address (or Domain name using DDNS), the password, and Port number.

4. Then user can access DVR.



7-2. Main Features

7-2-1. Live

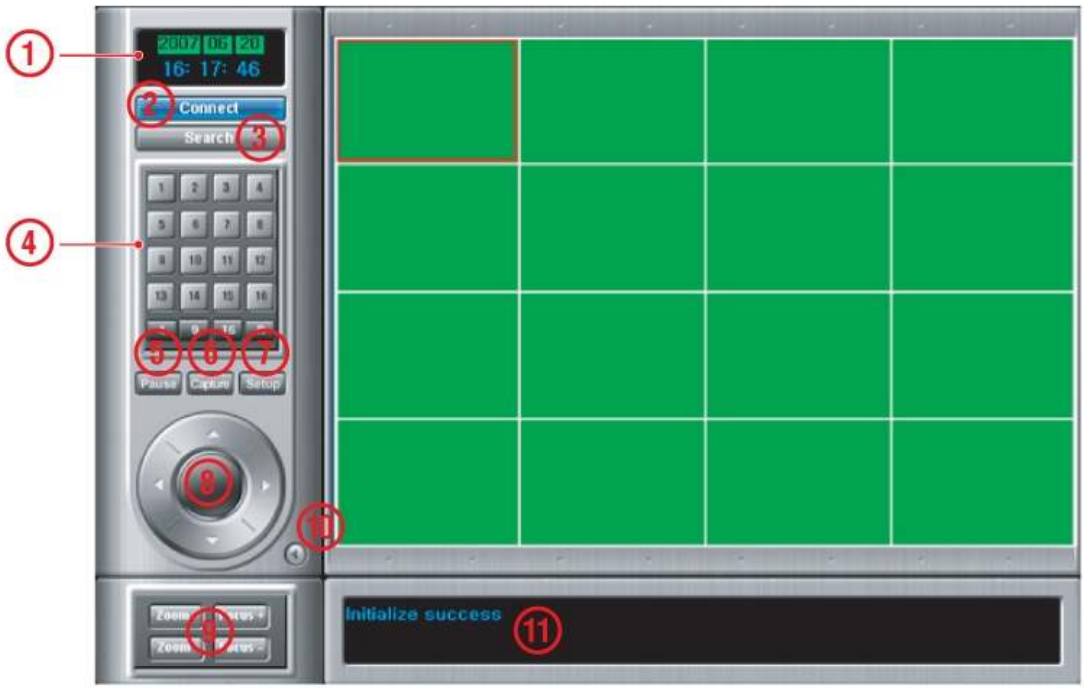


Figure 7.2.1. Main user interface - Live

Table 7.2.1. Main controls in Live

No	Name	Description
1	**DATE & TIME**	Displays the current date and time.
2	**CONNECT**	Click this icon to connect to the DVR
3	**SEARCH**	Click this icon to search for recorded video.
4	**LIVE DISPLAY MODE**	Click these icons to select display mode.
5	**PAUSE**	Click this icon to pause the display screen.
6	**CAPTURE**	Click this icon to capture the image from live display.
7	**SETUP**	Click this icon to control remotely the setting of DVR.
8	**PAN/TILT**	Use these buttons to control the PAN/TILT features on the remote camera.
9	**ZOOM/FOCUS**	Use these buttons to control the ZOOM/ FOCUS features on the remote camera.
10	**AUDIO**	The audio can be turned on or off by clicking the audio icon.
11	**CONNECTION STATUS**	Shows the client connection information.

7-2-2. Search and Playback

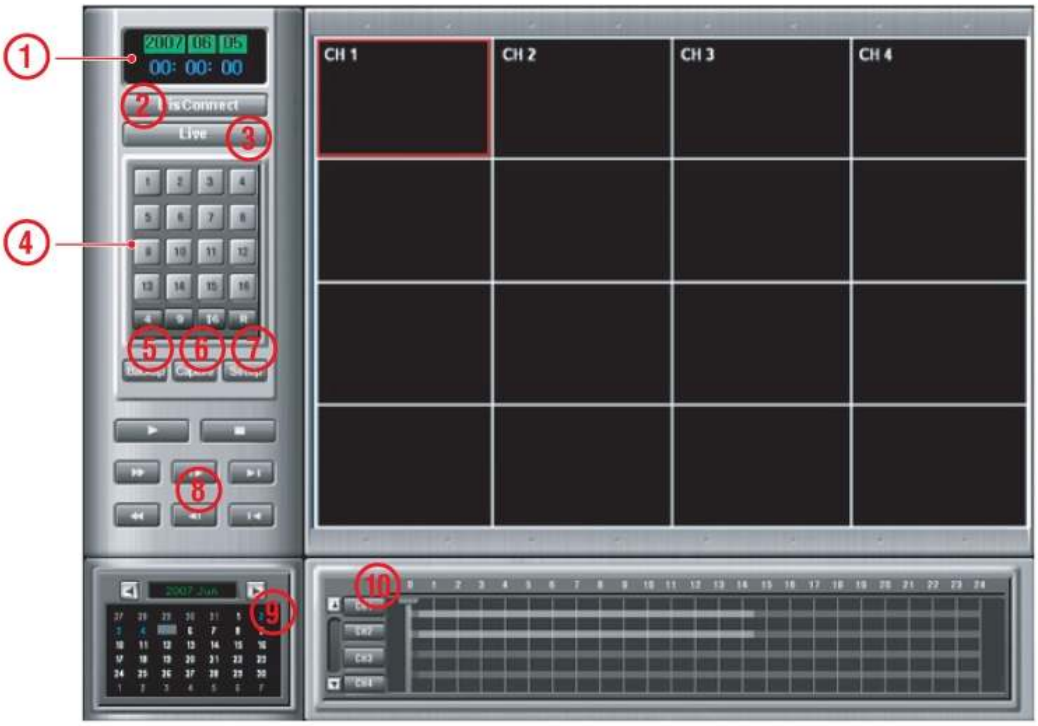


Figure 7.2.2. Main user interface – Search & Playback

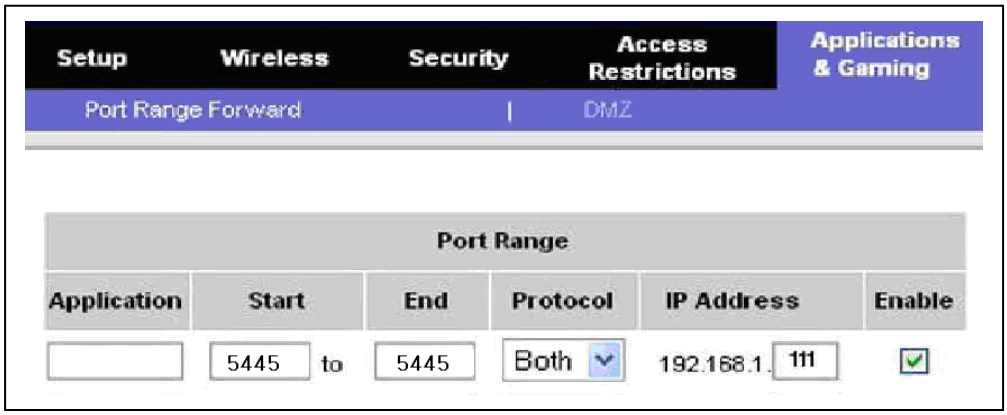
Table 7.2.2. Main controls – Search & Playback

No	Name	Description
1	**DATE & TIME**	Displays the current date and time.
2	**Connect/Disconnect**	Click this icon to connect to the DVR
3	**LIVE**	Click this icon to search for recorded video.
4	**DISPLAY MODE**	Click these icons to select display mode.
5	**BACKUP**	Click this icon to pause the display screen.
6	**CAPTURE**	Click this icon to capture the image from playback.
7	**SETUP**	Click this icon to control remotely the setting of DVR.
8	**PLAYBACK BUTTONS**	Use these buttons to control the PAN/TILT features on the remote camera.
9	**SEARCH CALENDAR**	Use these buttons to control the ZOOM/ FOCUS features on the remote camera.
10	**Timeline Search Window**	The audio can be turned on or off by clicking the audio icon.

APPENDIX

A. How to open TCP port on Router?

1. Connect network cable between DVR and Switch / Hub or Router.
2. Network setting on DVR are Port: 5445, IP ADDRESS: 172.16.1.52, Subnet: 255.255.0.0, Gateway: 0.0.0.0 as default.
3. From PC connected in the same Router, find IP address, Gateway, and Subnet by IPCONFIG command in command prompt.
4. But if IP is something else like 192.168.1.xxx., you should change IP address, Subnet, Gateway on DVR. Go to SETUP>NETWORK of DVR and change the IP settings to be like IP: 192.168.000.XXX and Gateway: 192.168.1.1. (Refer to the user's manual of Router.)
5. Then, go to Router Setup and you should open TCP port 5445 using Port Forwarding.



You can learn how to port forward many kinds of Routers from the bellow site.

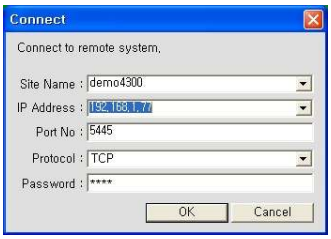
http://www.portforward.com/english/routers/port_forwarding/routerindex.htm

B. How to access DVR from Remote PC?

- **If DVR and Remote PC are in the same local network (LAN), then go to B-1.**
- **If DVR is in other Wide Area Network (WAN) and you will access with IP address, then go to B-2.**
- **If DVR is in other Wide Area Network (WAN) and you will access with DDNS service and Domain Name, then go to B-3.**

B-1. How to access DVR from Remote PC in the same local network?

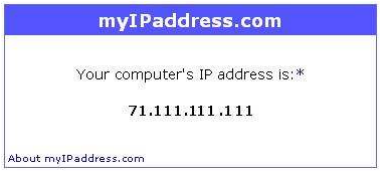
1. Install network client software on CD.
2. Check the IP address from SETUP>SYSTEM>DESCRIPTION of DVR.
3. Run network client software.



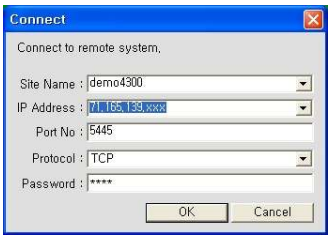
4. Click CONNECT button.
5. Input IP address, Port No., and Password. And click OK

B-2. How to access DVR from Remote PC with IP address?

1. User can find this external IP address of Rauter from the PC connected to the same Router where the DVR is installed from www.myipaddress.com



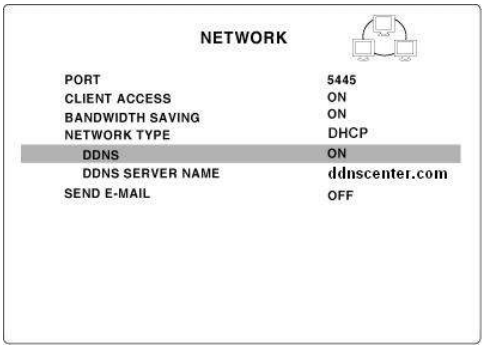
2. Install network client software on CD and run it or access www.anytimeview.com



3. Click CONNECT button.
4. Input the external IP address of Rauter, Port No. (This port must be opened.), and Password. And click OK.

B-3. How to access DVR from Remote PC with DDNS service when DVR is linked on Dynamic IP?

1. Go to SETUP>NETWORK. Set NETWORK TYPE as DHCP and DDNS SERVER as ON. And make sure that DDNS SERVER NAME is ddnscenter.com

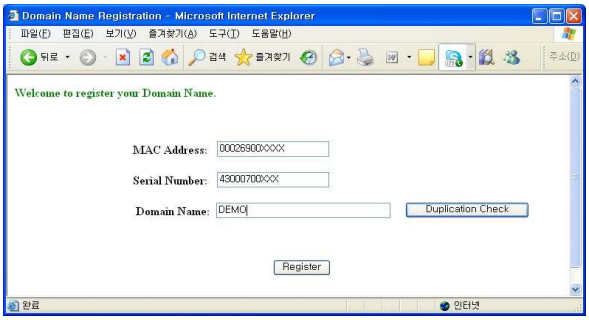


2. Go to Setup menu of Router and open TCP port 5445 using Port Forwarding.

3. Write down the Mac address and Serial No. from the label of the rear panel of DVR.

4. Log on to http://www.ddnscenter.com

5. Input the Mac address (EX. 0002690XXXXX) and Serial No. (EX. 43000700XXX.) in each field. (Note. Input Serial No. and Mac address without a space.)



6. Create a Domain Name for your DVR system and input it in the field provided. (Note. Input only Domain Name and never input “ddnscenter.com”.)

7. Click the DUPLICATION CHECK button to see if the domain name is available.

8. If you see the screen “You can use the Domain name you entered” then click RETURN and click REGISTER button to complete the registration.

9. Install network client software on CD and run it or access www.anytimeview.com.

10. Click CONNECT button.

11. Input the Domain Name that you registered, Port No. (This port must be opened), and Password. And click OK.